

Elutriate Preparation

INTRODUCTION

An elutriate sample is prepared from a mixture of water and sediment at a 4:1 ratio. The mixture is shaken thoroughly and tests are conducted on the water after the sediment has settled. Standard protocols using water column species are generally used

ELUTRIATE PREPARATION

Prepare elutriates on Day -1.

Homogenize the sediment sample using a clean polypropylene spoon.

Weigh out 200 grams of sediment into a one-liter jar, or 50 grams of sediment into a 250-mL jar depending on the final volume of elutriate needed for testing.

Dilution water should be adjusted to appropriate salinity according to the organism being tested.

Fill jars with dilution water.

Shake vigorously for 10 seconds and place in refrigerator to settle for 24 hours.

SAMPLE PREPARATION

After 24 hours, remove elutriates from refrigerator and pipette a 25 mL water quality sample using a 10 mL disposable pipette. Measure dissolved oxygen on the elutriate samples to determine if the DO is above the lower limit for the test organism. If it is below the limit, siphon the amount of sample needed for the test and gently aerate it until the DO is acceptable.

Samples should be aliquotted to test containers in a constant temperature room where temperature equilibration can take place.

REFERENCES

Tetra Tech. 1986. Recommended Protocols for measuring selected environmental variables in Puget Sound. Prepared for the Puget Sound Estuary Program by: Tetra Tech Inc., 11820 Northup Way Bellevue, WA 98005.

US EPA/ACOE. 1991. Evaluation of dredged material proposed for ocean disposal (testing manual). EPA-503/8-91/001, USEPA Office of Water (WH-556F), US Army Corps of Engineers, Washington, D.C.